In the Claims:

Please amend the claims as follows:

1. (Original) A process for preparing a product comprising branched olefins, said process comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce said branched olefins comprising 0.5% or less quaternary aliphatic carbon atoms.

2. (Original) The process of claim 1 wherein said isoparaffinic composition and said branched olefins comprise 0.3% or less quaternary aliphatic carbon atoms.

3. (Original) The process of claim 1 wherein said isoparaffinic composition comprises at least about 50 %w of said branched paraffins.

4. (Original) The process of claim 1 wherein at least 75 %w of said branched paraffins comprise a range of molecules of which the heaviest molecules comprises at most 6 carbon atoms more than the lightest molecules.

5. (Original) The process of claim 1 wherein at least 90 %w of said branched paraffins comprise a range of molecules of which the heaviest molecules comprises at most 6 carbon atoms more than the lightest molecules.

6. (Original) The process of claim 1 wherein said paraffins have a carbon number in the range of from 7 to 35.

7. (Original) The process of claim 1 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 10 to 18.

8. (Original) The process of claim 1 wherein at least 90 w% of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 10 to 18.

9. (Original) The process of claim 1 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 11 to 14.

10. (Original) The process of claim 1 wherein at least 90%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 11 to 14.

11. (Original) The process of claim 1 wherein said average number of branches is at least 0.7.

12. (Original) The process of claim 1 wherein said average number of branches is at most 2.0.

13. (Original) The process of claim 1 wherein said average number of branches is at most 1.8.

14. (Original) The process of claim 1 wherein said average number of branches is at most 1.4.

15. (Original) The process of claim 1 wherein said first number of methyl branches is at least 50%.

16. (Original) The process of claim 1 wherein said second number of ethyl branches is at most 10%.

17. (Original) A process for preparing a product comprising branched olefins, said process comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising less than 0.5% quaternary aliphatic carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;and,

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce said branched olefins comprising less than 0.5% quaternary aliphatic carbon atoms.

18. (Original) The process of claim 1 wherein said isoparaffinic composition and said branched olefins comprise 0.3% or less quaternary aliphatic carbon atoms.

19. (Original) The process of claim 1 wherein said isoparaffinic composition comprises at least about 50 %w of said branched paraffins.

20. (Original) The process of claim 1 wherein said isoparaffinic composition comprises at most 10%w linear paraffins.

21. (Original) The process of claim 1 wherein said isoparaffinic composition comprises at most 5%w linear paraffins.

22. (Original) The process of claim 1 wherein said isoparaffinic composition is produced by a Fischer Tropsch process.

23. (Original) The process of claim 1 wherein said isoparaffinic composition is obtained from an ethylene oligomerization process.

24. (Original) The process of claim 1 wherein said isoparaffinic composition is treated with an absorbent under conditions effective to perform a function selected from the group consisting of reducing linear paraffin content, favorably adjusting said average number of branches, and a combination thereof.

25. (Original) The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of metal or metal compound selected from the group consisting of chrome oxide, iron oxide and, noble metals.

26. (Original) The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of platinum, palladium, iridium, ruthenium, osmium and rhodium.

27. (Original) The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of palladium and platinum.

28. (Original) The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of platinum.

29. (Original) The process of claim 25 wherein said dehydrogenation catalyst further comprises a porous support selected from the group consisting of activated carbon; coke; charcoal; silica; silica gel; synthetic clays; and silicates.

30. (Original) The process of claim 25 wherein said dehydrogenation catalyst further comprises a porous support selected from the group consisting of gamma alumina or eta alumina.

31. (Original) The process of claim 25 where said quantity of metal or metal compound is from about 0.01 to 5%w based on the weight of the catalyst.

32. (Original) The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of Group 3a, Group 4a and Group 5a of the Periodic Table of Elements.

33. (Original) The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of alkali earth metals and alkaline earth metals.

34. (Original) The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of indium, tin, bismuth, potassium, and lithium.

35. (Original) The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more halogens.

36. (Original) The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w independently of tin and chlorine.

37. (Original) The process of claim 1 wherein said catalyst is selected from the group consisting of chrome oxide on gamma alumina, platinum on gamma alumina, palladium on gamma alumina, platinum/lithium on gamma alumina, platinum/potassium on gamma alumina, platinum/tin on gamma alumina, platinum/tin on hydrotalcite, platinum/indium on gamma alumina and platinum/bismuth on gamma alumina.

38. (Original) The process of claim 1 wherein said dehyrogenation conditions comprise a temperature of from about 300°C to about 700 °C. and a pressure of from about 1.1 to 15 bar absolute.

39. (Original) The process of claim 1 wherein hydrogen is fed to said dehydrogenation catalyst with said isoparaffinic composition.

40. (Original) The process of claim 39 wherein said hydrogen and said paraffins are fed at a molar ratio of from about 0.1 to about 20.

41. (Original) The process of claim 1 wherein said dehyrogenation conditions comprise a residence time effective to maintain a conversion level of said isoparaffinic composition below about 50 mole%.

42. (Original) The process of claim 1 wherein said branched olefins comprise non-converted paraffins and said process further comprises separating said non-converted paraffins from said branched olefin product and recycling said non-converted paraffins to said dehydrogenation catalyst.

43. (Original) The process of claim 42 wherein said separating comprises exposing said product comprising non-converted paraffins to molecular sieves.

44. (Original) The process of claim 43 wherein said molecular sieves are zeolites.

45. (Original) The process of claim 1 wherein said branched olefin product comprises from about 1 to about 50% mole olefins relative to the total number of moles of olefins and paraffins present.

46. (Original) The process of claim 1 wherein said branched olefin product comprises from about 10 to about 20% mole olefins relative to the total number of moles of olefins and paraffins present in said product.

Claims 47-151 (Canceled).

152. (Original) A branched olefin composition made by the process of claim 1.

Claims 153-154 (Canceled).

155. (New) A process for preparing a product comprising branched olefins, said process comprising:

hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce said branched olefins comprising 0.5% or less quaternary aliphatic carbon atoms.

156. (New) A process for preparing a product comprising branched olefins, said process comprising:

hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising less than 0.5% quaternary aliphatic carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;and,

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce said branched olefins comprising less than 0.5% quaternary aliphatic carbon atoms.